

WHAT IS CLAIMED IS:

1. A lock, comprising:

5 an outer housing, which is open at an end thereof and is close at the other end thereof, having an outer slot at an interior side thereof and a key bore at the close end thereof;

 an inner housing received in the outer housing for rotation between a
10 predetermined angle, wherein the inner housing has an inner slot, which is open at both an interior side and an exterior side thereof, and a driving section;

 a plurality of locking plates received in the inner housing in sequence and rotated between a predetermined angle, each of which has a key bore at a center
15 thereof and a recesses at a periphery thereof;

 a movable pin having a predetermined length to be moved between two positions in which the movable pin is received either in the inner slot of the inner housing and the outer slot of the outer housing or in the inner slot of the inner housing
20 and the recesses of the locking plates;

 wherein the inner housing is reciprocated in the outer housing between a first position and a second position and has an annular slot and a position slot, which is communicated with the annular slot, at the exterior side thereof, and
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 a first tumbler pin provided at the outer housing and having an inner end thereof received either in the annular slot or in the position slot of the inner housing;

 wherein the first tumbler pin is received to the position slot of the inner
30 housing to restrain the inner housing from rotation while the inner housing is moved to the first position and the first tumbler pin is received to the annular slot of the inner housing to release the inner housing for free rotation while the inner housing is moved to the second position.

35 2. The lock as defined in claim 1, further comprising a second tumbler pin

provided at the outer housing and having an end thereof located at where between the driving section and the movable pin and further located at where between a path of the movable pin moving along with the inner housing while the inner housing moves between the first position and the second position.

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3. The lock as defined in claim 1, further comprising a first position ball provided at the outer housing and having a portion thereof exposed in the outer slot to support the movable pin.

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4. The lock as defined in claim 1, wherein the driving section is coupled with the inner housing by a pin, wherein the driving section is fixed at an open end of the inner housing to restrain the locking plates from escaping via the open end.

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5. The lock as defined in claim 4, wherein the annular slot and the position slot are provided at an exterior side of the driving section.

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6. The lock as defined in claim 1, further comprising a spring, which an end thereof is exerted on the driving section of the inner housing to push the inner housing to the close end of the outer housing.

7. A lock, comprising:

an outer housing, which is open at an end thereof and is close at the other end thereof, having an outer slot at an interior side thereof, a key bore at the close end thereof and a plurality of first locking pins and springs at a periphery thereof, wherein the first locking pins are reciprocated along a radial orientation of the outer housing and the spring are exerted on the first locking pins respectively;

an inner housing received in the outer housing for rotation between a predetermined angle, wherein the inner housing has an inner slot, which is open at both an interior side and an exterior side thereof, and a driving section, and a plurality of second locking pins at a periphery thereof, wherein the second locking pins are reciprocated along a radial orientation of the inner housing;

a plurality of locking plates received in the inner housing in sequence and

rotated between a predetermined angle, each of which has a key bore at a center thereof and a recesses at a periphery thereof;

5 wherein the inner housing is reciprocated in the outer housing between a first position and a second position and has an annular slot and a position slot, which is communicated with the annular slot, at the exterior side thereof, and

10 a first tumbler pin provided at the outer housing and having an inner end thereof received either in the annular slot or in the position slot of the inner housing;

wherein the first tumbler pin is received to the position slot of the inner housing to restrain the inner housing from rotation while the inner housing is moved to the first position and the first tumbler pin is received to the annular slot of the inner housing to release the inner housing for free rotation while the inner housing is moved
15 to the second position.